

Operating Instructions

Dehumidified air dryer CTT 250

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Edition: 04/03

Order-No: 64.10-0259GB05

These operating instructions are for*:

(* Please fill in personally)

Serial number: _____

Year of manufacture: _____

Date of delivery: _____

Number of delivery: _____

Date of commissioning: _____

Location: _____

Group of machines: _____

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1. General Information



These operating instructions are addressed to all users of the device.

These operating instructions must be used by every person charged with work on the unit.

1.1. Warnings and symbols

The following warnings and symbols are used in these operating instructions:



This symbol indicates danger to life! Fatal or serious injury is possible if the corresponding instructions, regulations or warnings are not observed.



This symbol indicates that serious injury is possible if the corresponding instructions, regulations or warnings are not observed.



This symbol indicates that extensive damage to equipment is possible if the corresponding instructions, regulations or warnings are not observed.



This symbol indicates information important for becoming familiar with the equipment, i.e. technical correlations.



This symbol indicates that a technical term is explained at this point.



When disposing of drying agents / batteries / oil, observe all official rules.



Caution: High noise pollution!
For all work on the equipment, hearing protection should be worn.
Avoids impairment of hearing!



Caution: Danger of crushing!
Disconnect the equipment from mains supply before starting maintenance procedures. All compressed air pipes on the equipment should be depressurised before starting maintenance work.



Caution: Danger of hot surface!
Before starting any work wait until all parts have been cooled down sufficiently. Avoid touching any of these parts!



Caution: Danger of skidding!
Remove any granules remaining on the ground.



Caution: Danger to life through electrical shock!
Observe that the control system is still under voltage even when the main switch is switched off.

1.2. Explanations and information

Various terms and designations are used in these operating instructions to ensure clarity. Therefore please note that the terms used in the text stand for the corresponding explanations listed below.

- **Equipment**
"Equipment" can mean an individual unit, a machine or an installation.
- **Operating personnel**
The "operating personnel" are persons operating the equipment on their own responsibility or according to instructions.
- **Operator**
The "operator" of the equipment (production manager, foreman, etc.) is the person responsible for all production sequences. The operator instructs the operating personnel of what is to be done.
- **Operating instructions**
The "operating instructions" describe the interaction of the equipment, production sequences or methods. The operating instructions must be compiled by the operator of the equipment.
- **Equipment foreman**
When several operating personnel work on one machine, the "equipment foreman" coordinates the sequences. The equipment foreman must be appointed by the operator.
- **Trained personnel**
"Trained personnel" are persons who, due to their training, are authorized to carry out the required work.

1.3. Legal basis

See "Manufacturer's Certificate" resp. "Certificate of Conformity".

1.4. Fields of applications

For the drying of thermoplastic granules and regrind before processing in order to remove all remaining moisture from the granules both inside and out, independent of climate or ambient air conditions.

1.5. Notes on Usage

- Experienced operators can begin directly with the chapter on "Start-up" if the unit has been properly installed.
- If the unit has not been installed yet, observe the instructions in the chapter on "Assembly Instructions" and "Transport, Assembly and Storage".

2. Safety instructions



These safety instructions apply to all persons within the range of action of the equipment.

Please inform all persons within the range of action of the equipment of the direct and indirect hazards connected with the equipment.

These operating instructions are to be used by all persons assigned activities connected with the equipment.

Knowledge of the English language is prerequisite.

Ensure in each case that the operating personnel are familiar with the operating instructions and the function of the equipment.

2.1. For your safety

General

The operating personnel of this equipment must be at least 16 years old.

Please read these operating instructions carefully before taking into operation for the first time. Contact us should questions arise. This avoids injury and damage to equipment!

These operating instructions must be kept available at all times at the place of operation of the equipment. Improper operation results in danger of accidents!

Please note that, for reasons of clarity, not all conceivable cases regarding operation or maintenance of the equipment can be covered in these operating instructions.

Please observe all safety instructions and warnings on the equipment. This avoids injury and damage to equipment!

All work on the equipment is to be carried out by persons whose qualifications are specified in the pertaining chapters of the operating instructions. Improper operation results in danger of accidents!

The proper working clothes are to be worn during any work on the equipment. This avoids injury!

The local regulations and requirements pertaining to this equipment must be observed.

Disconnect electrical components from the mains supply before work is carried out on these components. Caution: Danger to life through electrical shock!

Compile detailed operating instructions based on these Operating instructions for the sequence of procedures to be carried out on this equipment. Improper operation results in danger of accidents!

Observe that the control system is still under voltage even when the main switch is switched off. Caution: Danger to life through electrical shock!

Assembly

Compare the connected loads with those of the mains supply. Danger of injury through electrical shock!

When using lifting gear, please observe the pertaining regulations. Caution: Danger of accidents!

Do not modify, add other equipment or change the design of the equipment without the approval of the manufacturer. Caution: Danger of accidents!

Attachments not supplied by Colortronic must be manufactured in accordance with safety regulation EN 294. Danger of accidents!

The equipment may only be operated when all the associated components are properly connected up and in accordance with the relevant regulations. This avoids injury and damage to equipment!

Operate the device only if all its components are grounded. Danger: accident through electrical shock!

Please note for installation that the equipment is top-heavy. Danger exists that it may topple over!

Take care that the device is not standing on the mains cable. This will prevent danger to people and material!

Operation

Appoint an equipment foreman to be responsible for the equipment.

Ensure that the operating personnel are provided detailed instruction in the operation of the equipment. Improper operation results in danger of accidents!

When the main switch is switched off for reasons pertaining to safety, it must be secured against unauthorized activation. Caution: Danger of accidents!

Repair work may be carried out by trained personnel only. Caution: Danger of accidents!

Never operate the equipment when partially dismantled! Danger! Limbs may be caught in machinery! Electric shock!

In case of malfunction, shut down the equipment immediately. Have malfunctions corrected immediately. Danger of accidents!

The machine is intended only for the drying of granulated plastics. Any other or additional use is contrary to specifications.

This equipment is not suitable for food processing.

The safety instructions of the connected machines must be followed.

Please note that sound levels exceeding 85 db(A) may in the long term damage your health. Use the appropriate ear muffs. This avoids impairment of hearing!

Please note that the drying cells, drying hoppers and air pipings grow hot during use. Avoid touching any of these parts! Danger: Injury through burns!

Never operate the dryer without side panels. Danger: Limbs may be caught in machinery! Injury through burns!

When drying plastics which emit gases dangerous for human health, take care that the regeneration exhaust air is disposed of without polluting the environment. This will prevent danger to people and material!

Operate the dryer only if there is at least one drying hopper operating. This will prevent damage of material!

Maintenance

Before starting maintenance work, appoint a supervisor.

Inform the responsible personnel before maintenance work on the system is started. Caution: Danger of accidents!

Disconnect the equipment from mains supply before starting maintenance procedures to ensure that it cannot be switched on unintentionally. Caution: Danger of accidents!

All pipes, hoses and screwed connections should be checked regularly for leaks and damage. Any faults which arise should be corrected immediately. Danger of accidents!

Depressurise all compressed air piping before starting maintenance work. Danger of accidents!

The air filters should only be cleaned/replaced when the the main switch is off and the blower has stopped. This avoids injury and damage to equipment!

Any maintenance work on the equipment should only be started when the the main switch is off and the blower has stopped. This avoids injury and damage to equipment!

Check the v-belts of the blower only when the main switch is switched off and the blowers have stopped. Caution: Danger of accidents!

Open drying hoppers only if they are completely empty. Danger of accidents!

Never open drying hoppers while the device is in operation. Danger: Injury through burns!

Open drying hoppers only if they have been cooled down sufficiently. Danger: Injury through burns!

Before starting maintenance work wait until the drying cells, drying hoppers and air pipings have been cooled down sufficiently. Avoid touching any of these parts! Danger: Injury through burns!

Remove any granules remaining on the ground. Danger of accidents!

Arrest the wheels after installation if the dryer is mounted on a movable frame. This will prevent danger to people and material!

2.2. For the safety of the devices

Never change settings without carefully assessing the consequences.

Use only original Colortronic spare parts.

Observe the maintenance instructions.

Keep a record of all maintenance works and repairs.

Please note that electronic components can be damaged by static discharge.

Before initial operation and in regular intervals, make sure that no electrical connections are loose.

Never readjust sensors without exactly knowing their functions.

Please ensure that the permitted storage temperature lies between -20 and +55 °C (-4 to +131 °F).

Please ensure that the permitted operation temperature lies between 0 and +45 °C (32 to +113 °F).

Check the direction of rotation of the blowers after the electrical connections have been made (see rotational direction arrow).

Clean the drying hoppers before the first filling.

Note the instructions of the material manufacturer for the maximum drying temperature.

Note the drying instructions of the material manufacturer.

Take care that the drying hoppers are always completely filled and that the retention period is respected if continual removal is taking place.

Note that too large amounts taken from the drying hopper lead to insufficient drying of the material.

Close the air stop valves of drying hoppers which are empty or have not been used.

Note down all data which you have entered into the control system.

The password is to be entrusted to authorised personnel only.

Please note that the temperature of the dryer heating system must always be set lower than that of the supplementary heaters.

When you dispose of drying agents, observe all official rules.

Note that drying cells are replaced or refilled by Colortronic only if they are empty.

The material level may not fall below 40 % in the drying hopper, when material is continuously removed from the drying hopper, but no material is continuously fed into the drying hopper (batch drying). Close the throttle valves.

Read the operating manuals of the connected devices.

Please note that a compressed air supply is required for the operation of the unit.

Never set a higher operating pressure than 6 bar for the hopper loaders (system overpressure).

3. Start up



This chapter is addressed to the operators of the machine.

This chapter assumes general skills with drying equipment.

This chapter assumes that the functional description has been read and understood.

It must be ensured that the operators have the required experience.



Make sure that the main switch is at "0" position.

Check the drying hopper for cleanliness.

Check to see whether the adhesive film on the drying hopper has been removed.

If there is a return air cooler, switch on its coolant circuit.

If there is a timer clock, adjust it. Read the operating manual of the timer clock.

Fill at least half of the drying hopper with material.

3.1. Switching on the Dryer

Switch on the main switch of the dryer.

3.2. Switching on the Hopper Heater

Switch on the main switch of the hopper heater.

3.2.1. Setting the Drying Temperature

For each drying hopper, set the required drying temperature (= desired value) by means of the respective thermo regulator.

Check whether the set drying temperature is appropriate for the materials which have been filled in.

Observe the instructions of the material manufacturer.

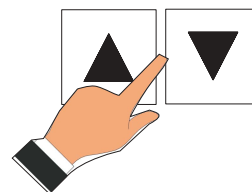
After the first filling, process the material only after the retention period is over.

Observe the instructions of the material manufacturer.

Press the "PGM" key.



By means of the arrow keys select the desired value for the drying temperature.



After 2 seconds the display flashes and the value is stored.

Press the "EXIT" key (the setpoint value and the actual value of the drying temperature are displayed).



After a change of materials, immediately check and correct the set drying temperature.

3.2.2. Continuous Operation of the Hopper Heater

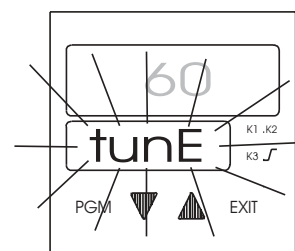


Optimizing the thermo regulator

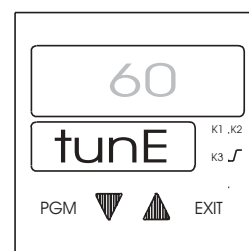
Press the “EXIT” key for at least 2 seconds.



“tunE” flashes. The optimization can take several minutes.



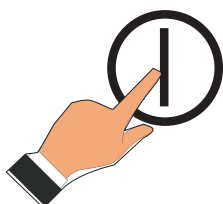
If “tunE” stops flashing, the optimization is finished.



Press the “EXIT” key.



3.3. Continuous Operation of the Dryer

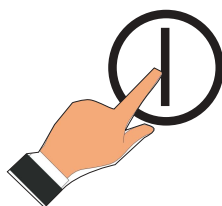


3.4. Switching the Dryer/ Hopper Heater off

Switch off the hopper heater:



Switch off the dryer:



Wait until the blower has stopped.
The run on time of the blower is 15 minutes.

If there is a return air cooler installed, switch off its coolant circuit.

Switch off the main switch of the dryer / the hopper heater.

4. Error and error correction



This chapter is directed at the operators of the equipment.

This chapter assumes general skills in dealing with drying systems and control units.

This chapter assumes that the “start-up” description has been read and understood.

It should be ensured in each and every case that the operators have the relevant skills.

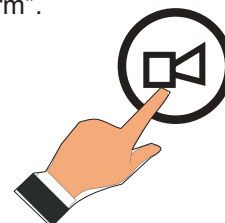


Failures must be repaired immediately.



An alarm is given by flashing light of the button “Alarm”.

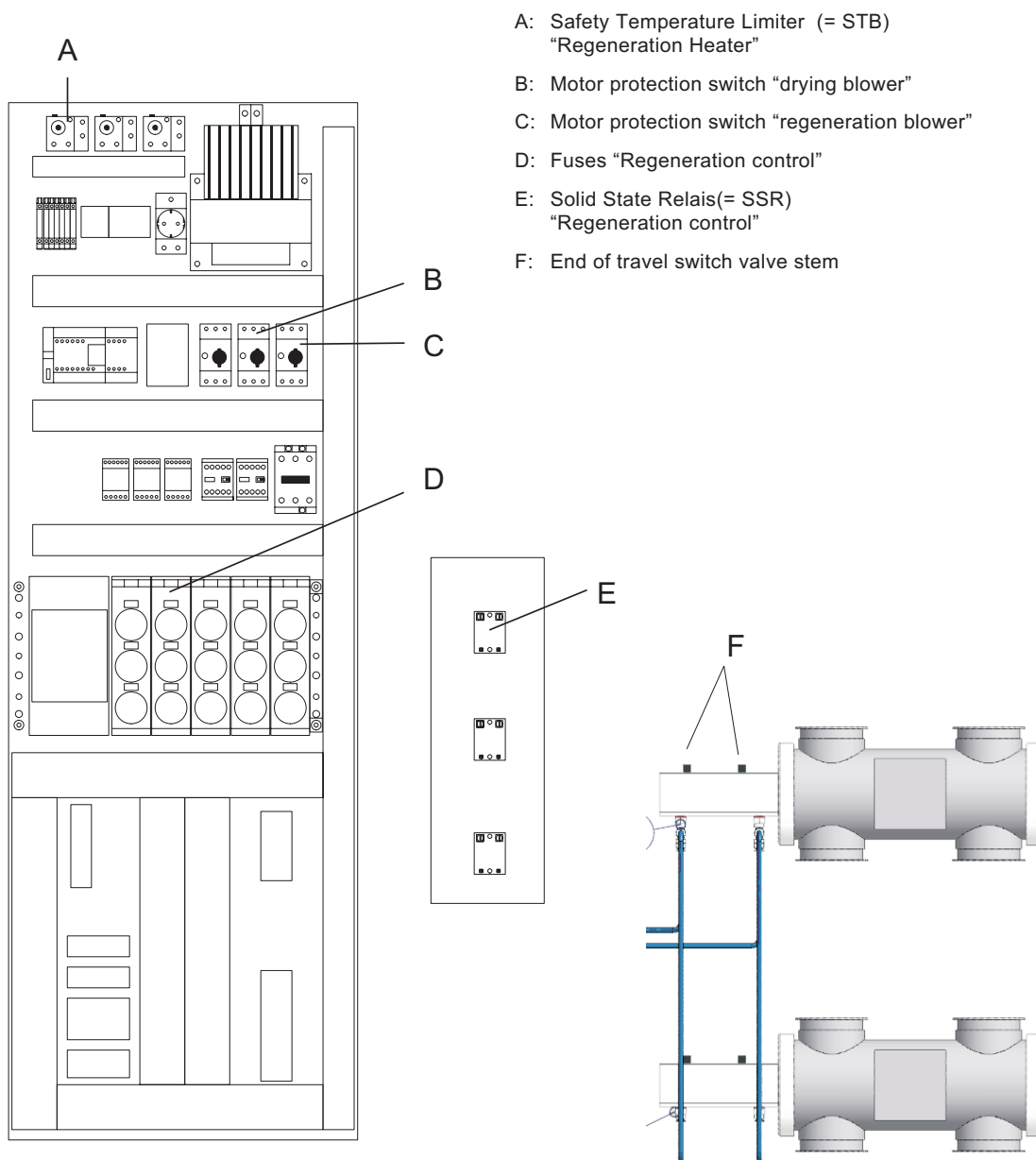
If the alarm message is acknowledged by pressing the button “Alarm”, but the failure is not yet eliminated, the flashing changes to steady light. If the failure is repaired the light is off.



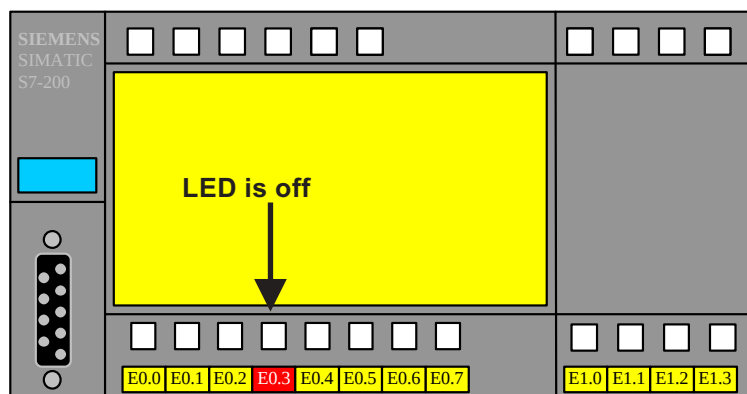
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Alarm messages are displayed by lighted diodes on the control panel.



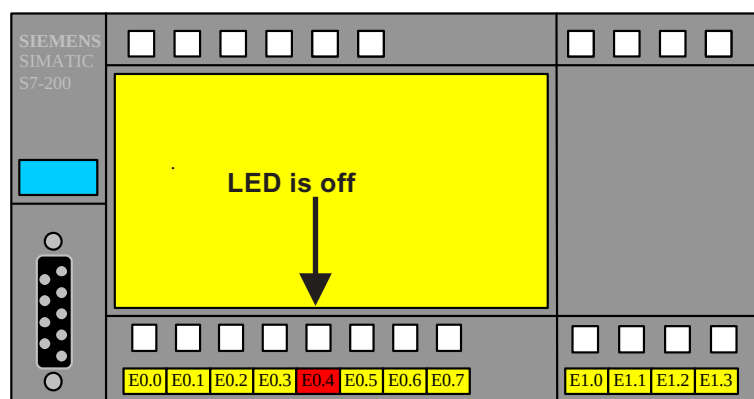
The motor protection switch (C) of the regeneration blower has been activated.



Check setting of the motor protection switch.

Check regeneration blower.

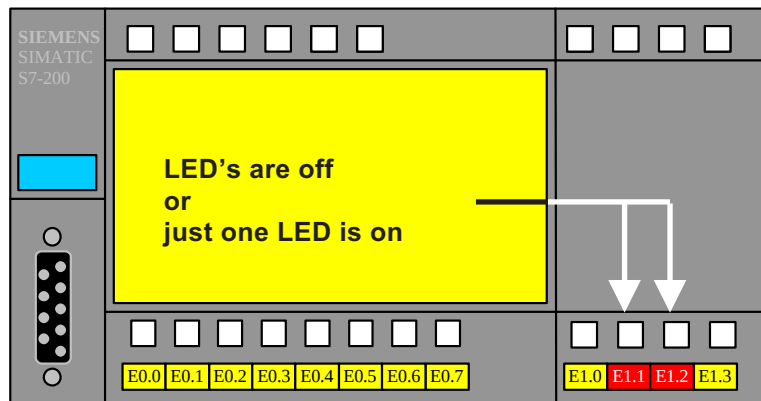
The motor protection switch (B) of the drying blower has been activated.



Check setting of the motor protection switch.

Check drying blower.

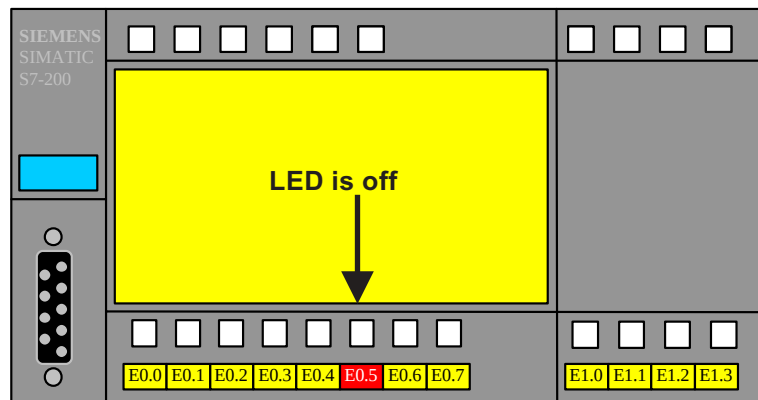
Error Valve Block
The valve block has not reached the proper position.



Check LED-display of end of travel switch at the valve stem.

Check compressed-air supply.

The Safety Switch Regeneration Heater (A) Has Been Actuated



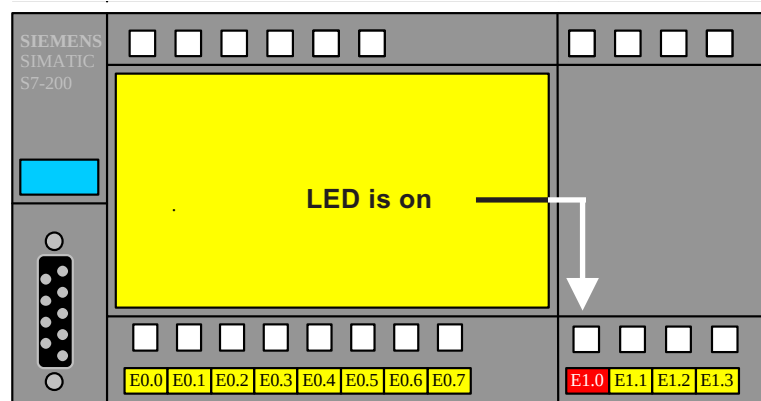
Check the safety temperature limiter.

Check the heater.

Check the fuses.

Short circuit check of the heater.

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Error Regeneration Control

Check LED-display of the solid state relays (= SSR, E):

LED-display "green": no error,

LED-display "red": error - no control voltage, no current conduction, short circuit or defective heater.

Check fuses of the regeneration control (D).

Defective fuses may not be repaired.

Hopper heater

Following errors are displayed by the alarm lamp (A):

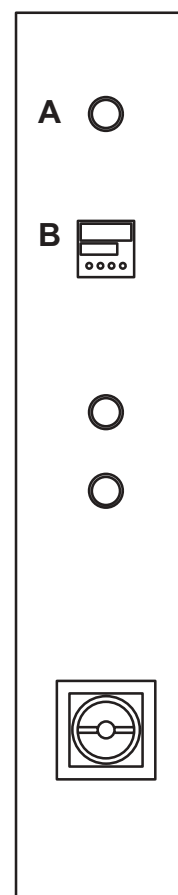
- The alarm lamp (A) is on, setpoint display drying temperature on the thermo regulator (B) flashes.

Check if the continuous operation of the dryer has been started, if necessary start continuous operation.

- The Safety Switch Hopper Heater Has Been Actuated
Check the safety temperature limiter.
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- Excess Temperature Heater Hopper
The temperature of the hopper heater is too high.

Check the safety temperature limiter.
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5. Maintenance



This chapter is intended for persons with skills in electrical and mechanical areas due to their training, experience and received instructions.

Personnel using the instructions in this chapter must be instructed of the regulations for the prevention of accidents, the operating conditions and safety regulations and their implementation.

Ensure in each case that the personnel are informed.

For maintenance work taking place at heights of over approx. 6 feet, use only ladders or similar equipment and working platforms intended for this purpose. At greater heights, the proper equipment for protection against falling must be worn.

Use only suitable lifting gear which is in proper working order and load suspension devices with sufficient carrying capacity. Do not stand or work under suspended loads!

Ensure that the electric motors/switch cabinets are sufficiently protected against moisture.

Use suitable workshop equipment.

Before starting maintenance work, appoint a supervisor.

Inform the responsible personnel before maintenance work on the system is started.

Never operate the equipment when partially dismantled.

Any maintenance and repair work NOT described here may only be carried out by Colortronic service personnel or by specialised staff authorised by Colortronic.



Disconnect the equipment from mains supply before starting maintenance procedures to ensure that it cannot be switched on unintentionally.

All compressed air pipes on the equipment should be depressurised before starting maintenance work.



Please observe the maintenance schedule.

Before starting maintenance work, clean the equipment of oil, fuel or lubricant.

Ensure that materials and incidentals required for operation as well as spare parts are disposed of properly and in an environmentally sound manner.

Use only original Colortronic spare parts.

Keep record of all maintenance and repair procedures.

5.1. Maintenance schedule

Daily:	Check warning signs on equipment for good legibility and completeness Clean return air filters and casing (depending on dust build-up)
Weekly:	Check main switch for proper function Check the signal lamps for proper functioning
Every three months:	Clean filter of the regeneration blower (depending on amount of dust collected)
Every six months:	Change return air filter (depending on dust build-up) Clean air filter of the suction box All electrical and mechanical connections should be checked to see if they fit securely
Annually:	Dewpoint should be checked (only by Colortronic service personnel) Change filter of the regeneration blower (depending on amount of dust collected)
Whenever the material is changed:	The drying hopper and suction box must be cleaned



The service intervals refer to a 3-shift operation.



The given maintenance intervals are average values.

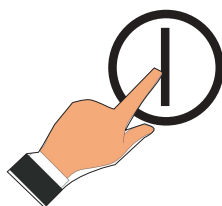
Check whether in your individual case the maintenance intervals must be shortened.

5.2. Cleaning or Replacing the Air Filters

Switch off the hopper heater



and the dryer:



Wait until the blower has stopped.
The run on time of the blower is 15 minutes.

Switch off the main switch of the dryer.

Interrupt the mains supply so that the device cannot be switched on unintentionally.

If there is a return air cooler installed, switch off its coolant circuit.



Clogged filters substantially reduce the amount of circulating air and lead to a production lag of your dryer. Clogged filters may also damage the heating elements.

Purchase order numbers return air filter	
when operating without return air cooler:	ID 86378
when operating with return air cooler:	ID 88226

Purchase order number regeneration air filter:	ID 98171
--	----------

5.2.1. Cleaning or Replacing the Return Air Filter

Open the panel (A) by means of the provided switch cabinet key.

Detach the nut on the housing of the return air filter (B) and remove the housing cover.

Remove the nut of the filter cartridge.

Remove the filter cartridge.

Clean the inside of the return air filter housing. Use non-fibrous cleaning cloths or an industrial type vacuum cleaner.

Blow compressed air from the inside out through the clogged filter cartridge **or** replace the filter cartridge.

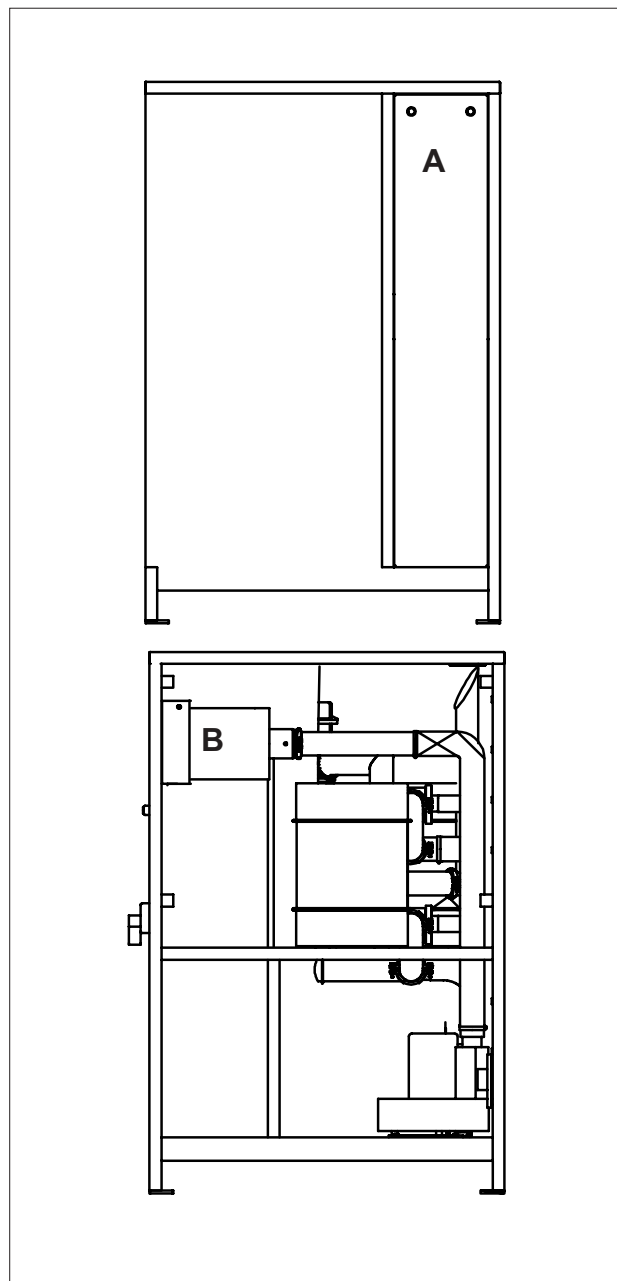
Re-install the cleaned/new filter cartridge.

Mount the nut.

Install the lid of the return air filter housing.

Fix the nut.

Mount the panel (A).



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Never operate the dryer without return air filter.

5.2.2. Cleaning or Replacing the Regeneration air filter

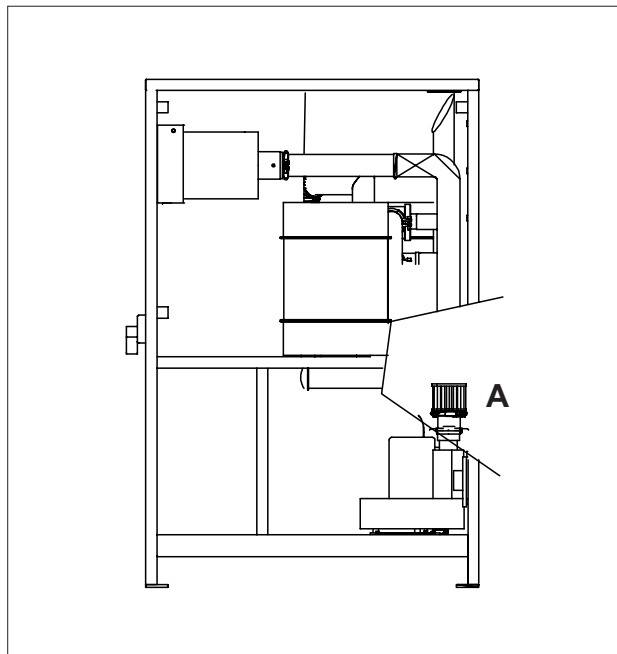
Open the back panel.

Slide the air filter (A) off the nozzle.

Blow compressed air through the clogged air filter from the inside out **or** replace the air filter.

Install the cleaned/new air filter (A).

Mount the back panel.



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Never operate the dryer without regeneration air filter.

5.3. Disposing of Drying Agents

Please note that drying cells are replaced or refilled by Colortronic only if they are empty.



When disposing of drying agents, observe all official rules.

Since used drying agents may contain impurities from the dried materials, treat them as special waste.



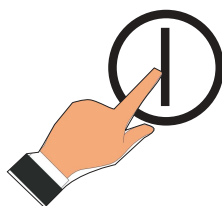
It is not possible for Colortronic to take back the used drying agent or drying cells with used drying agents.

5.4. Cleaning the Drying Hopper

Switch off the hopper heater



and the dryer:



Wait until the blower has stopped.
The run on time of the blower is 15 minutes.

Switch off the main switch of the dryer.

Interrupt the mains supply so that the device cannot be switched on unintentionally.

If there is a return air cooler installed, switch off its coolant circuit.



Clean the drying hopper each time you are changing the materials.

Make sure that the drying hopper has cooled down sufficiently.

Make sure that the drying hopper is completely empty.

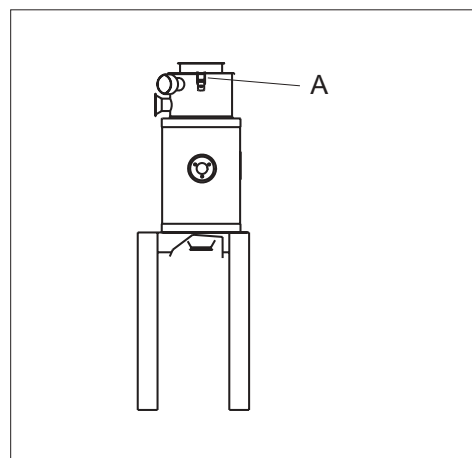
Remove any granules remaining on the ground.

TT 25

Open the toggle-type fasteners (A) at the hopper lid and fold the hopper lid upwards (if in use: remove before the single conveyor).

Clean the drying hopper.

Close the hopper lid and close the toggle-type fasteners (A) (if in use: re-mount the single conveyor).



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Remove any granules remaining in the cleaning opening.

TT 60 - 1600

Open the cleaning opening of the drying hopper: Lift and turn the handle (A) to open the lock, if in use: remove before the single conveyor (TT 400 - TT 1600: 2 handles).

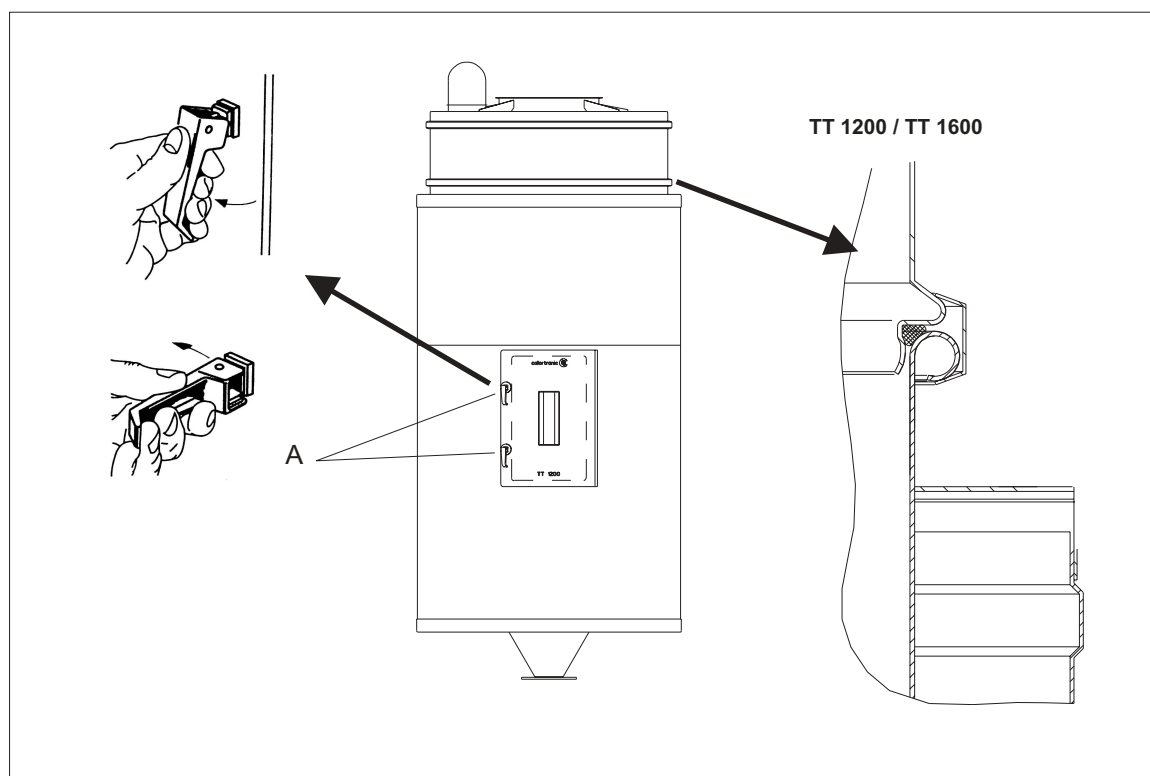
Clean the drying hopper.

Close the cleaning opening of the drying hopper: Turn the handle (A) until the cleaning opening is locked and then close the handle (if in use: re-mount the single conveyor).



Remove any granules remaining in the cleaning opening.

TT 1200 and TT 1600: Clean the bead.



TT 60 - TT 1600

6. Functional description



This functional description is addressed to the operators of the equipment.

This functional description assumes general familiarity with drying equipment.

It should be verified that the operators do indeed have the appropriate skills.

6.1. General Information

The dehumidified air dryers were developed for drying plastic granules. Due to their compact construction, they can be employed next to the processing machine (drying hopper on the processing machine) or with one or more drying hoppers as a movable facility (compact facility).

The dryers work according to the dehumidified air principle, i.e., the air is not only heated but also dehumidified before it flows through the drying hopper.

In this manner, plastic granules can be dried down to a very small residual moisture content.

The drying takes place continuously, i.e., there are no rest periods due to regeneration of the drying agent.



The dryer is rated for continuous operation.

All function sequences are fully automatic.

The dryer is equipped with two drying cells. One drying cell is part of the drying cycle; the other drying cell is regenerated simultaneously.

If a malfunction occurs in the drying cycle during the program run, regeneration is not interrupted, but continues until the program end has been reached. This guarantees that one regenerated drying cell is always available.

The air inside the switch cabinet is cooled by a cooling appliance for the protection of temperature-sensitive components (if present, optional).

With the digital timer (optional) the dryer can be switched on and off at set times.

Dew point dependent regeneration switch (optional)

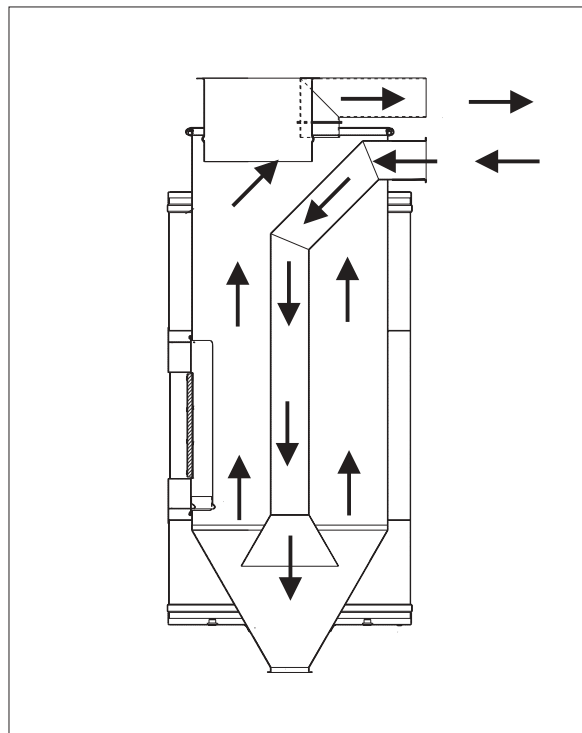
The dew point temperature is monitored continuously. The valve system switches to the freshly regenerated drying cells only after the selected dew point temperature has been reached. The humid drying cells are then regenerated. After the cooling time the drying cells are ready for operation again. The valve system switches to the freshly regenerated drying cells only after the moisture content of the drying cells which are in the drying cycle have reached the setpoint value.

6.2. Drying Hopper (Optional)

The material is dried in the drying hopper. The dehumidified air is conducted through the material in the drying hopper and takes up moisture. Drying hoppers must have the appropriate dimensions for their specific use so that the desired final moisture content is reached. When refilling a drying hopper, the material must first be dried completely before material can be taken out for the first time.

If material is taken out continuously, there must also be a continual addition of material into the drying hopper (continuous drying process). New (moist) material is conducted into the upper opening of the drying hopper and slowly reaches the material outlet at the lower end. On its way from the upper to the lower end, the material is dried down to the final moisture content.

In order to guarantee a continuous drying process, we recommend that you always keep the drying hopper filled completely.



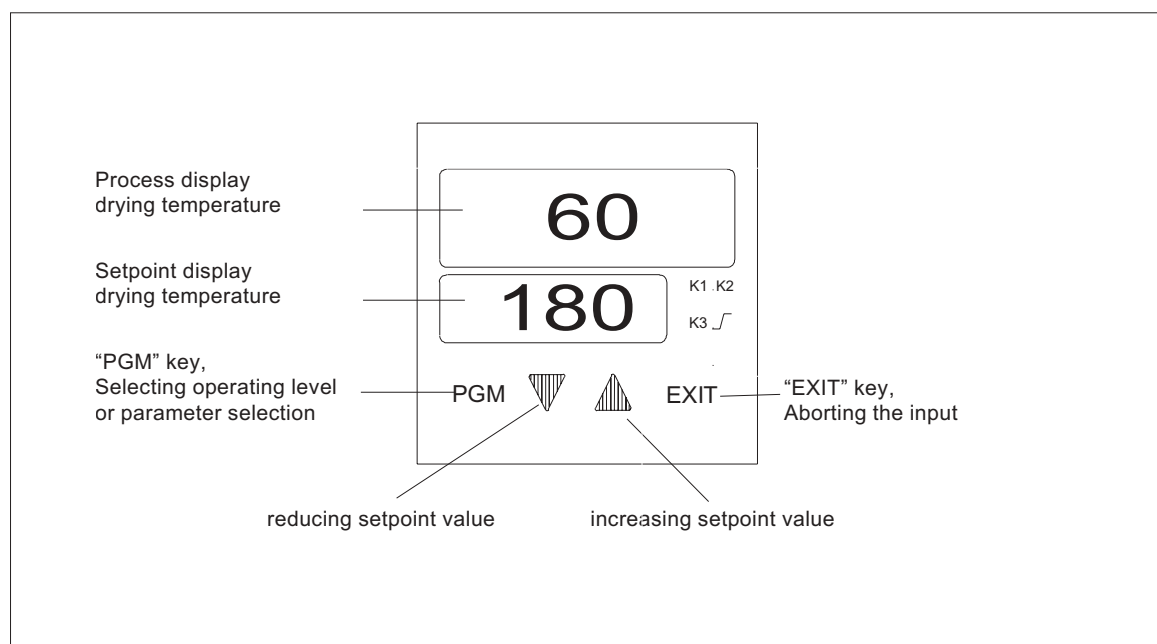
Drying hopper

6.2.1. Hopper Heater

Each drying hopper has its own hopper heater. The temperature of the dehumidified air is adjusted by means of the thermo regulator. The setting range is from +60 - +180 °C. The current temperature can be read off the digital display (= actual value).



The thermo regulator is factory-programmed. Nevertheless, you have to set specific values which are dependent on the processed material.



Thermo regulator

6.3. Connection to a Pneumatic Conveying System (Optional)

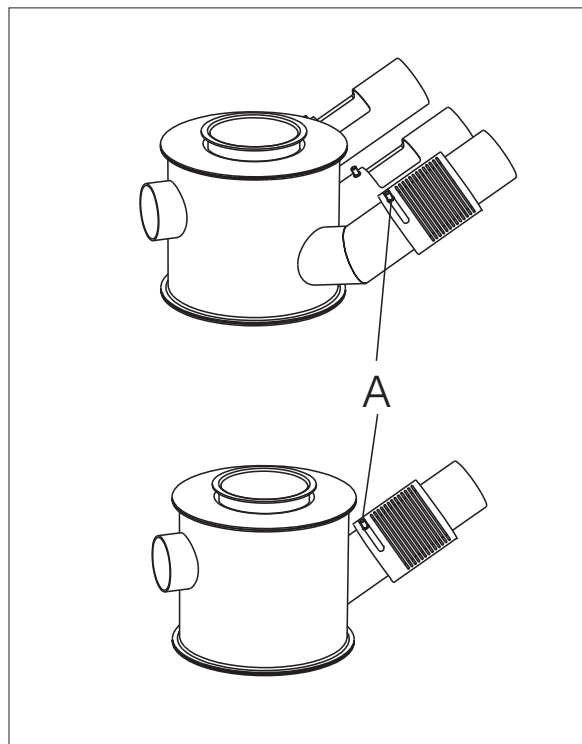
Your drying facility works best in combination with a pneumatic conveying system. In this way, your drying hopper will always be supplied with sufficient material.

The facility will only take as much material as is required by the processing machines. Therefore, the drying result will always be the same.

Colortronic drying hoppers are equipped with a suitable flange for adding a Colortronic pneumatic conveyor.

Suction boxes with one or three suction tubes can be supplied as well (optional). These suction boxes are developed specifically for this type of hopper.

The loading of the conveying line with material is adjusted by closing or by opening of the control cover (A).



Suction box

6.4. Return Air Cooler (Optional)



A return air cooler must be employed if the return air temperature is higher than +65 °C.

A return air cooler improves the efficiency of the drying cells.



The lower the return air temperature, the better the efficiency of the drying cells.

The return air cooler can be connected to a coolant circuit or to the water mains network.

7. Transport, Assembly and Storage



This chapter is intended for all operating personnel of the equipment.

Personnel using these instructions must be instructed in the regulations for the prevention of accidents, the operating conditions and safety regulations and their implementation.

Ensure in each case that the operating personnel are sufficiently informed.

Please inform all persons within the range of action of the equipment of the direct and indirect hazards connected with the equipment.

Please observe all safety regulations for the operation of lifting equipment.

7.1. Transport and Packing



Please ensure adequate carrying capacity of the lifting equipment.
Note that the dryer system is top-heavy. Risk of toppling!



The machine must not be tilted or laid on its side.

The equipment pass a rigorous operating test in the factory and are packed carefully to avoid transport damage.

Please check packing on delivery for transport damage.

The inlet and discharge flanges are sealed with plugs, so that no dirt can enter during transport. Plugs must be removed before assembly.

Packing materials should be disposed of according to environmental laws or reused.

The dryer or the compact unit is delivered on a pallet.

The dryer should only be moved by means of the appropriate lifting equipment (e. g. a fork lift truck or a workshop crane).

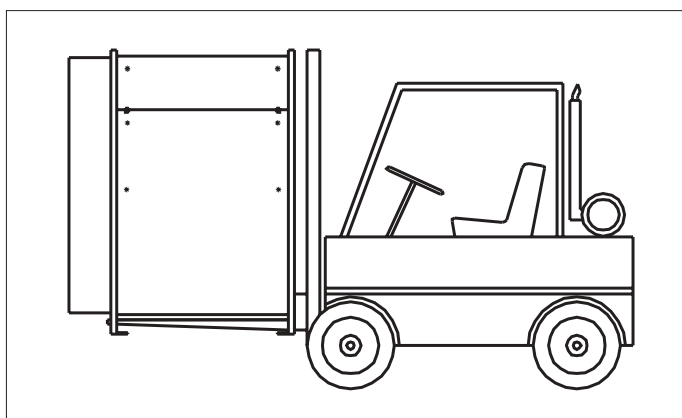
Fasten the transport cables to the eyelets of the control cabinets.

Transport must be shock-proofed and free from vibrations.

with a fork lift truck

Push the forks up to the dryer housing.

Check that the forks reach completely under the dryer housing.



Transport with a fork lift truck

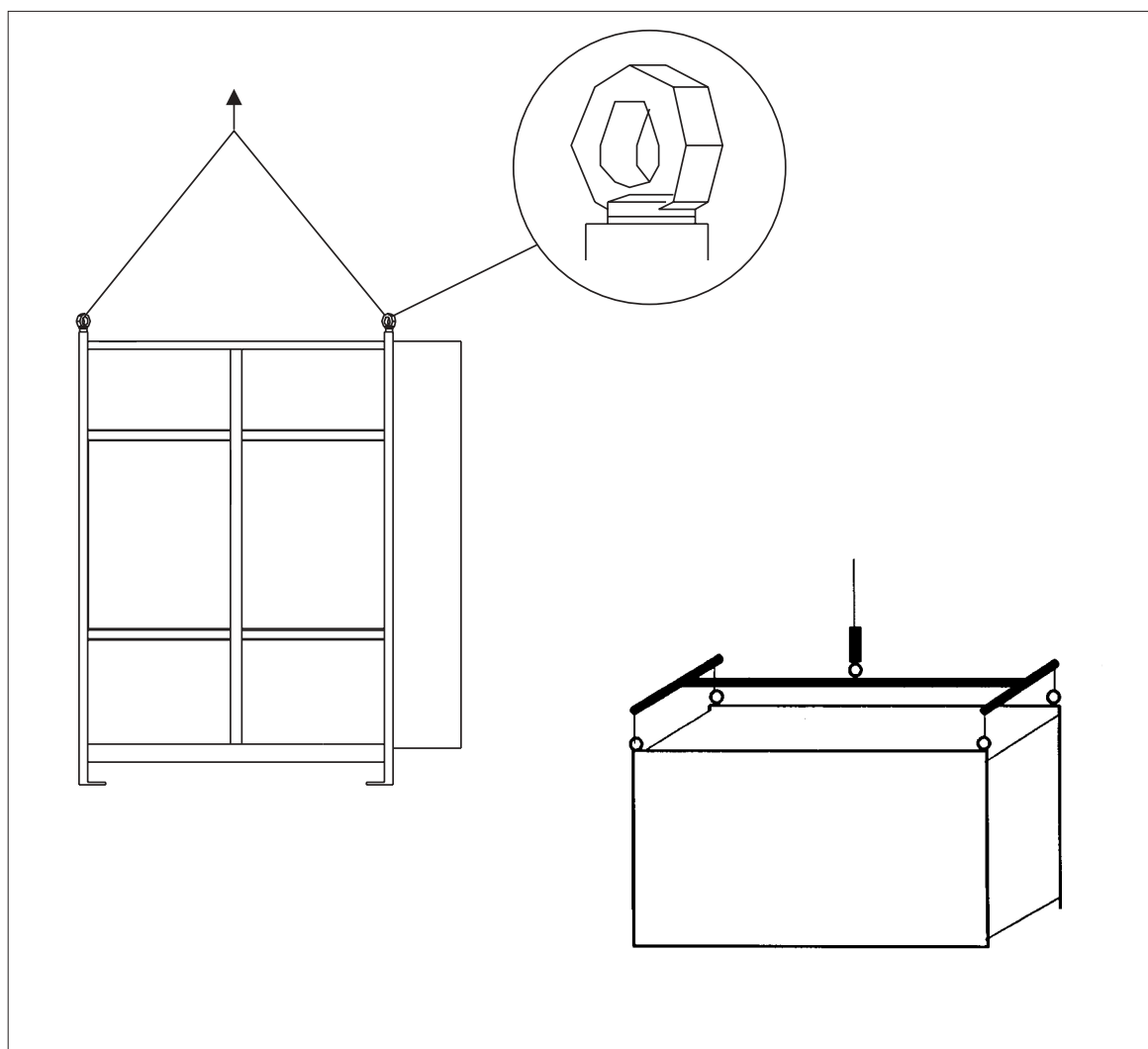
with a workshop crane

Check if the eyelets are installed on the dryer housing.

If this condition is met, fasten the transport cables to the eyelets.

If this condition is not met, mount the eyelets and then fasten the transport cables to the eyelets.

Disassemble the eyelets after set-up.



Transport with a workshop crane

7.2. Assembly



Please ensure adequate carrying capacity of the lifting equipment.

Check the carrying capacity of the point of installation, particularly if installed on a platform.

The place selected for installation should be as free of vibrations as possible.

The main switch must be freely accessible.

Ground the equipment against electrostatic charging.



The machine must not be tilted or laid on its side.

Because of its compact construction the dryer can be installed directly beside the processing machine (drying hopper on the processing machine) or with one or more drying hoppers as a movable facility (compact facility).

Special foundations are not necessary for installation.

The dryer must be installed on a level surface and must not be exposed to excessive humidity. The maximum permissible ambient temperature is 45 °C.

To facilitate servicing, the dryer should be installed in such a way that it is accessible from 3 sides. Make sure that the air filters can be changed without problems.

To conserve energy, keep the distance between dryer, hopper and processing machine as small as possible.

The wheels of the compact unit should be locked to ensure stable installation.

The foil should be removed from the drying hopper.

7.3. Storage

The control system may only be stored at temperatures from 0 to +55°C (32 to +131 °F).

Between delivery and machine commissioning the equipment should be stored in a dry, dust-free and vibration-free room.

8. Assembly instructions



These installation instructions are intended for persons with skills in electrical and mechanical areas due to their training, experience and received instructions.

Personnel using these installation instructions must be instructed in the regulations for the prevention of accidents, the operating conditions and safety regulations and their implementation.

Ensure in each case that the personnel are informed.

The installation instructions provided in the corresponding operating instructions apply for all connected equipment.

Observe safety regulations with regard to lifting gear handling.

All installation work must be carried out with the equipment disconnected from electrical power and compressed air supply.



For installation work taking place at heights of over approx. 6 feet, use only ladders or similar equipment and working platforms intended for this purpose. At greater heights, the proper equipment for protection against falling must be worn.

Use only suitable lifting gear which is in proper working order and load suspension devices with sufficient carrying capacity. Do not stand or work under suspended loads!

Use suitable workshop equipment.



Install the equipment such that all parts are easily accessible; this facilitates maintenance and repair work

8.1. Installation of the exhauster fan for regeneration of exhaust air

When plastics are being dried that release harmful gases during the drying process, care must be taken that the regeneration exhaust air is disposed of in an environmentally sound way. At the same time the throughput of the regeneration blower must not be altered. It should be noted when assembling a disposal system (e.g. an exhauster system) that the regeneration exhaust air is very humid. Thus condensation may form, which must not under any circumstances return to the dryer.

8.2. Connection of Return Air Cooler (Optional)



A return air cooler must be employed if the return air temperature is higher than +65 °C.

The return air cooler can be connected to a coolant circuit or the water mains network.

Observe the water flow with connection to water mains network. The coolant circuit must be dimensioned accordingly.

Remove the side panel of the dryer.

Connect the coolant intake line and coolant return line to the return air cooler.

Observe the flow direction of the coolant through the return air cooler.

Check the connections for leaks.

Mount the side panel.

8.3. Electrical Connection



Observe the rules of the local electricity board.

Check that the supply voltage and the power frequency are in accordance with the data on the name plate of the device.

The electrical connection may only be carried through or assigned by Colortronic service staff or by qualified staff authorized by Colortronic.

Other persons are not permitted to carry through the electrical connection.

The main switch must be freely accessible.

Ground the equipment against electrostatic charging.



Regularly make sure that none of the electrical or screw connections are loose.

Make sure that the main switch is at "0" position before the electrical connection is carried out.

The operating voltage is 400 V/3 AC/50 Hz.
Special voltages can be supplied on request.

8.4. Compressed Air Supply

A compressed air supply is needed to operate the valve stem.

Check whether the compressed air piping has been installed and connected properly.

Check whether fittings, length and quality of the hose assemblies are in accordance with the requirements.

The operating pressure is 5-6 bar (system overpressure).

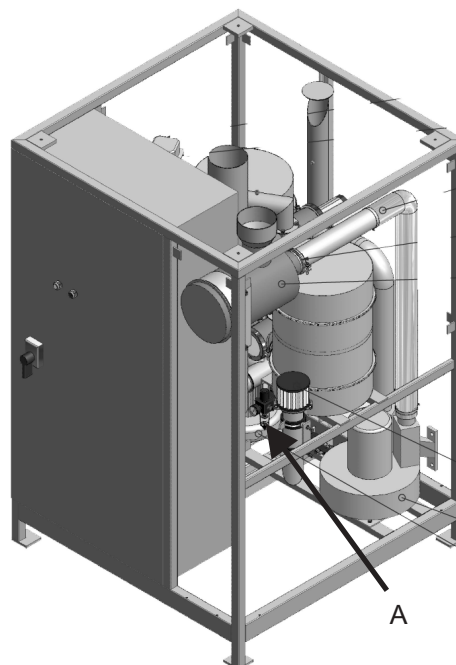
Check the compressed air in the factory ductwork system.

Set the air pressure at 5-6 bar (system overpressure).

Open the panel by means of the provided switch cabinet key.

Attach the compressed air main to the maintenance unit (A).

Mount the panel.



The compressed air has to be dewatered, dustfree and oilfree.



Depressurise the compressed air piping of the unit for all types of work.

The operating pressure is 5-6 bar (system overpressure).

9. Technical Data

Basic Version

- 2 drying cells for constant dry air production
- Time controlled change-over to the drying cell
- Maintenance-free pneumatic air valves
- Optimal regeneration time due to constant monitoring of the moisture level in the drying cells or desiccant beds
- Optical alarm indication
- Dry contact alarm output
- Easy filter cleaning by opening the front panel
- 8 decentralized temperature controls max. for all heating elements; safety temperature limiter for all heaters

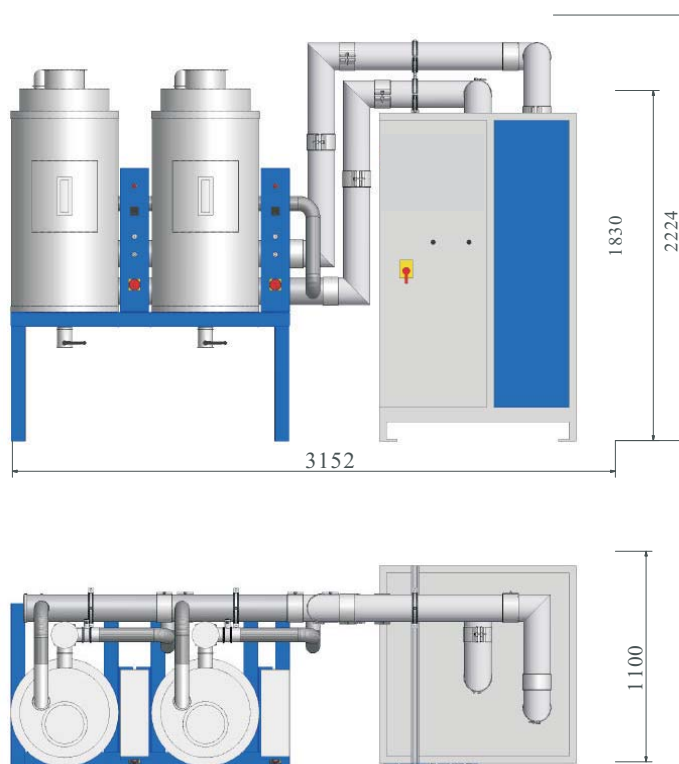
Optional Equipment

- Dew point display
- Return air cooler for processing high temperatures
- Pre-air filter
- Special color
- Special voltage
- Condensation collection chamber
- Automatic alarm clock or timer

Performance

- Air drying capacity: 200 m³/hr
- Operates with 400 V +/-10%, 3AC, 50 Hz voltage
- Connected load 12 kW + 36 kW connection value of 8 hopper heaters max.
- Average dewpoint temperature of -50° C (- 60 °F)
- Compressed-air consumption valve stem: 3 l/h
- Weight approx. 455 kg
- Noise level: approx. 50 dB (A)

Dimension Sheet

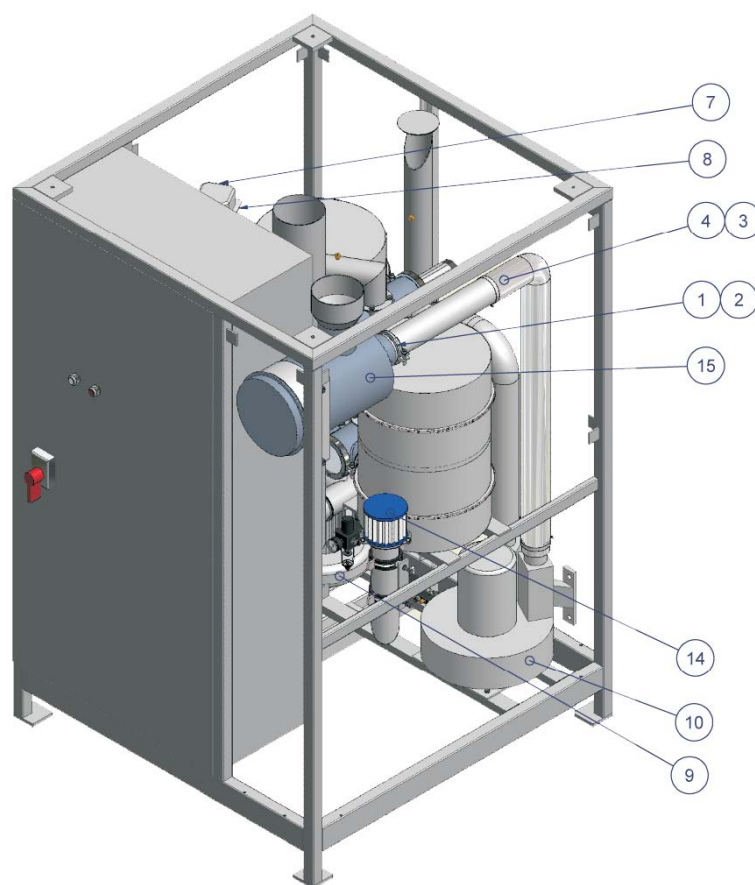


Dimensions and data without obligation. Dimensions in mm. Specifications may be subject to alterations.

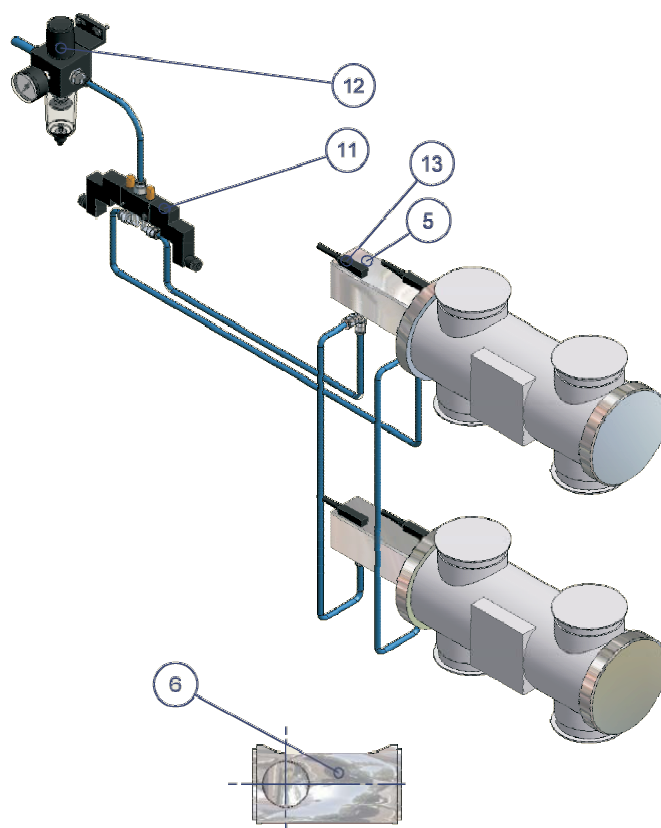
10. Spare parts list



This spare parts list is intended to be used only by trained personnel.
Other persons are not permitted to modify or repair the equipment.



Pos.	ID-number	Description
1	92241	Tension ring
2	94233	Sealing ring
3	95409	Hose clamp
4	96118	Flexible pipe
7	85651	Heating element 9 kW
8	07340	Sealing
9	85367	Blower SE 0170 C, 1,1 kW
10	S82961	Blower SE 0300 C, 1,5 kW
14	98171	Filter unit
15	86378	Filter cartridge



Pos.	ID-number	Description
5	S82966	Pneumatic thruster
6	S38457	Push-piston valve stem
11	S82962	Valve
12	85774	Maintenance unit
13	S82965	Approach switch

11. Electrical manual



This electrical manual is intended to be used only by Colortronic service personnel and trained personnel authorized by Colortronic.

Other persons are not permitted to modify or repair the equipment.

☐ Connection diagram no.: _____

☐ Currently not available; will be delivered at a later date!

12. Accessories

- ☐ _____
- ☐ _____
- ☐ _____

Accessories

**Spare parts list
Drying Hoppers
TT 25 - TT 6400**

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Service department

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Spare parts department

Telephone: **(0 61 75) 7 92-3 33**
Telefax: **(0 61 75) 7 92-1 08**

Edition: 01/03

These operating instructions are for*:

(* Please fill in personally)

Serial number: _____

Year of manufacture: _____

Date of delivery: _____

Number of delivery: _____

Date of commissioning: _____

Location: _____

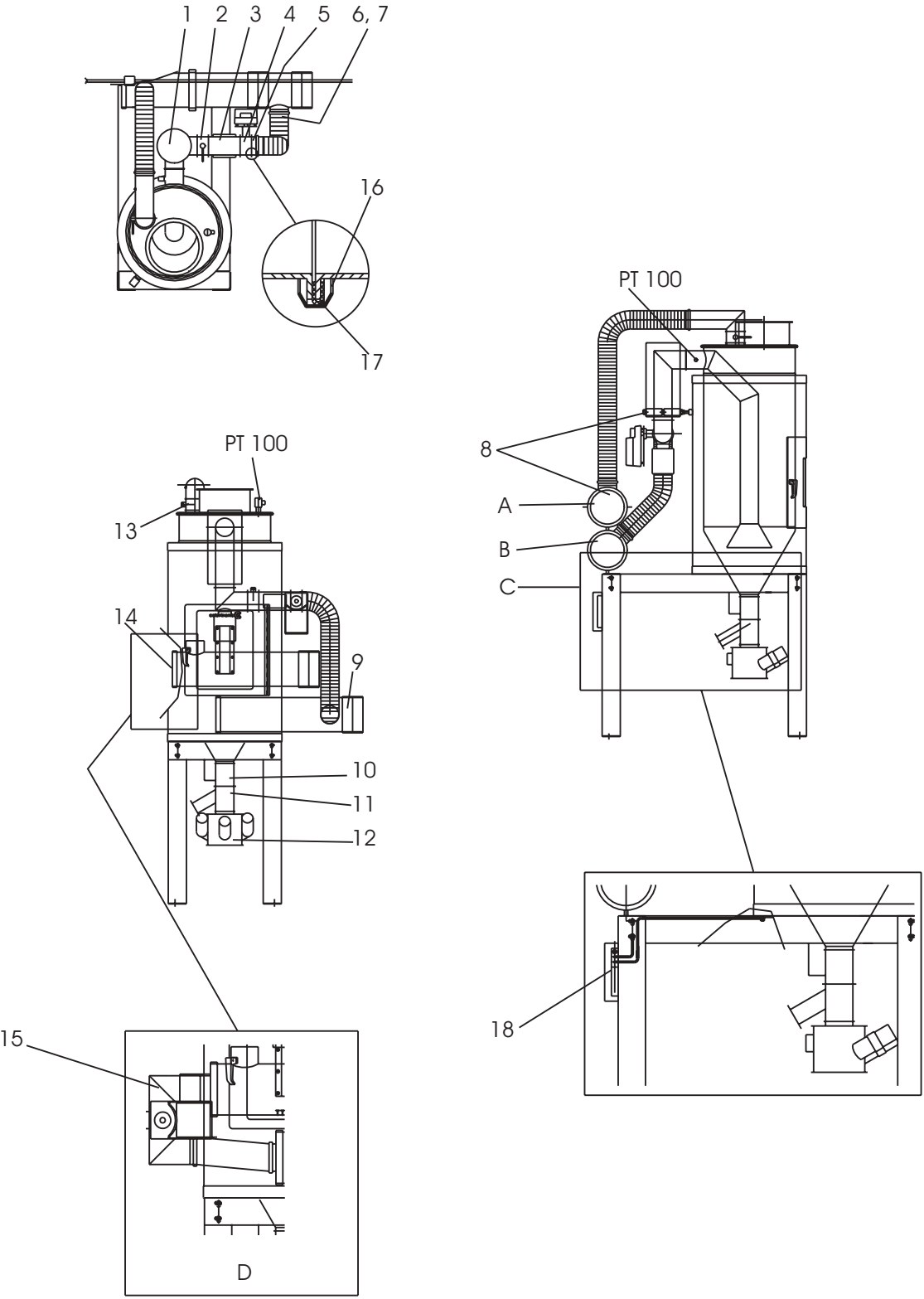
Group of machines: _____

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Pos.	ID-number	Description
1	85343	Radiator hopper heater
	85338	1.5 kW
	85363	3.0 kW
	85651	6.0 kW
	95828	9.0 kW
	87094	18.0 kW, 27.0 kW, 36.0 kW, 63.0 kW
2	18232	27.0 kW, 48.0 kW, 63.0 kW
	92241	Hand flap Ø 80
2	16523	Tension ring
	96099	Hand flap Ø 150 (> TT 1200)
	94231	Tension ring
3	06925	Dichtring
	92241	Flow indicator Ø 80
	94233	Tension ring
3	07418	Sealing ring (optional, if flap in use)
	96099	Flow indicator Ø 150
	94231	Tension ring
4	16517	Sealing ring (optional, if flap in use)
	92241	Motor flap Ø 80
	28923	Tension ring
4	16522	Cable set
	96099	Motor flap Ø 150
	28923	Tension ring
5	05646	Cable set
6	96118	Hose
7	95409	Pipe
8	84148	Hose clamp
9	84144	Hose clamp
10	30308	Hose clamp
	92241	Flap
	94233	Tension ring
11	30335	Sealing ring
	92241	Material outlet
	94233	Tension ring
12	28000	Sealing ring
	27985	Suction box with 1 suction tube
	92241	Suction box with 3 suction tubes
	94233	Tension ring

Pos.	ID-number	Description
13	18232	Hand flap
	92241	Tension ring
	94233	Sealing ring
14	30306	Lid
15	16517	Bypass flap
	92241	Tension ring
	84144	Hose clamp
	30309	Lid with hose
	96118	Pipe
	95409	Hose clamp
16	92241	Tension ring
17	94233	Sealing ring (optional, if flap in use)
18	30350	Grounding set

Multiplier PT 100:

86371	Pt 100 (3 m)
89846	Pt 100 (6 m)
93303	PT 100 (9 m)
86387	PT 100 (12 m)
83015	PT 100 (15 m)

Drying Hoppers, complete

Description	ID-number
TT 25	30301
TT 60	29767
TT 100	27976
TT 200	29768
TT 400	29769
TT 800	29770
TT 1200	32544
TT 1600	13924
TT 2400	13928
TT 3200	13939
TT 4800	13935
TT 6400	24425